



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/685,317	10/10/2000	Daniel L. Nower	53199.US	4835

408 7590 04/09/2003

LUEDEKA, NEELY & GRAHAM, P.C.  
P O BOX 1871  
KNOXVILLE, TN 37901

EXAMINER

LAU, TUNG S

ART UNIT	PAPER NUMBER
----------	--------------

2863

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/685,317

Applicant(s)

NOWER ET AL.

Examiner

Tung S Lau

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 and 18-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-14 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 15-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Claims 1-10 and 18-22 stand withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention as noted in paper number 6.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**A.** Claims 11-14 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Rider (U.S. Patent 4,566,327).

Rider discloses an alignment system including at least one accelerometer mounted on the sensor head for generating a signal corresponding to the angular orientation of the sensor head with respect to the first shaft (col. 10, lines 3-26), and a microprocessor for processing the signal generated by the at least one accelerometer (col. 17, lines 40-67, abstract), operable to provide an output corresponding to the angular position of the sensor head relative to the first shaft (col. 3, lines 3-25). An angular position sensing apparatus for sensing the angular position of the apparatus as it is rotated about a point of rotation including

Art Unit: 2863

a housing disposed for rotation about a point (fig. 2-3), first and second dual axis accelerometers disposed on the housing in a side-by-side (abstract), spaced apart relationship, the first dual axis accelerometer having a radial axis accelerometer for producing a signal corresponding to acceleration along a first radial axis and a tangential axis accelerometer for producing a signal corresponding to acceleration along a first tangential axis (col. 3, lines 3-25, fig. 2), the second dual axis accelerometer having a radial axis accelerometer for producing a signal corresponding to acceleration along a second radial axis and a tangential axis accelerometer for producing a signal corresponding to acceleration along a second tangential axis (col. 3, lines 26-38), the first and second dual axis accelerometers being disposed to place the first and second radial axis on lines that intersect at an intersection point (col. 3, lines 26-55), and a processor for receiving the signals from the first and second dual axis accelerometers and for producing a signal corresponding to the angular position of the housing (col. 3, lines 3-25, col. 17, lines 40-67, fig. 1-2), process quadrant location information (fig. 8, 10, 13), single axis accelerometer (fig. 4, unit 188, 189), the accelerometer signal; is proportional to angular orientation of the sensor head (col. 6, lines 10-28, col. 7, lines 1-20, col. 9, lines 1-23) and rotate about the same point (fig. 4), to correct the acceleration on the rotate point (col. 3, lines 33-43), the position of the intersection point relative to the point of rotation (fig 4, unit 154, 155, 156, 167), to correct the angular acceleration effects (col. 3, lines 43-48)

**B.** Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Thomas et al. (U.S. Patent 5,798,828).

Thomas discloses an alignment system for aligning a first shaft, a sensing apparatus including a sensor head coupled to the first shaft (fig. 2), a collimated light source disposed on the sensor head for transmitting an energy beam (col. 2, lines 35-51), a photosensitive sensor disposed on the sensor head for sensing light and generating a position signal therefrom (col. 2-3, lines 56-11), at least one accelerometer disposed on the sensor head for generating a signal corresponding to the angular orientation of the sensor head with respect to the first shaft (col. 1, lines 43-60), and a processor for processing the signal generated by the at least one accelerometer (col. 8, lines 46-66), operable to provide an output corresponding to the angular position of the sensor head relative to the first shaft (abstract).

### ***Claim Objections***

3. Claims 15-17 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitation of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: prior art fail to teach a second dual-axis accelerometer having a third sensing axis for sensing a

third acceleration component and a fourth sensing axis for sensing a fourth acceleration component, wherein the third and fourth sensing axes are in substantially perpendicular relation, the second dual-axis accelerometer operable to output a third signal proportional to the sensed third acceleration component and to output a fourth signal proportional to the sensed fourth acceleration component, the first and second dual-axis accelerometers mounted in spaced apart relation defining a plane of reference, and a microprocessor for processing the signals generated by the first and second dual axis accelerometers, operable to provide an output corresponding to the angular position of the sensor head relative to the first shaft.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Response to Arguments***

4. Applicant's arguments with respect to claims 11-17 and 23-25 have been considered but are moot in view of the new ground(s) of rejection. However, applicant's arguments filed 1/28/2003 have been fully considered but they are not persuasive.

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 703-305-3309. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 703-308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5841 for regular communications and 703-308-5841 for After Final communications.

Art Unit: 2863

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

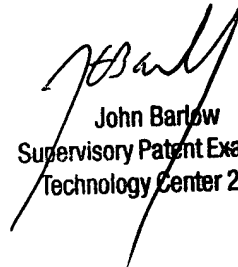
TC2800 RightFAX Telephone Numbers : TC2800 Official Before-Final RightFAX - (703)

872-9318, TC2800 Official After-Final RightFAX - (703) 872-9319

TC2800 Customer Service RightFAX - (703) 872-9317

TL

April 4, 2003

  
John Barlow  
Supervisory Patent Examiner  
Technology Center 2800